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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,798	11/26/2003	Jack Chen	M319	8228
30406	7590	08/28/2006	EXAMINER	
ROBERT L. MARSH 54 DANADA DRIVE P.O. BOX 4468 WHEATON, IL 60187-4468			MCCLLOUD, RENATA D	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/722,798	Applicant(s) CHEN ET AL.	
	Examiner Renata McCloud	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1,3,5 objected to because of the following informalities: there should be a colon after the limitation "said controller comprising" within the preamble. Appropriate correction is required.

Claim 1 recites the limitation "said controller comprising". There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation "the further step". There is insufficient antecedent basis for this limitation in the claim

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "said detector line is independent of a circuit for applying tower to said plurality of motors" is not disclosed in the original specification.

4. Claims 1-6 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it

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is most nearly connected, to make and/or use the invention. The limitation "said detector line is independent of a circuit for applying power to said plurality of motors" is not disclosed in an enabling manner. It is not clear how this is possible when the drawings show the detector lines (48, 73) connected to the low side drivers; and also show the detector line within the controller (66), the low side drivers and controller both being circuits for applying power to the motors.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 recites the limitation "the improvement". There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "said switches" in line 18. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "said switch". There is insufficient antecedent basis for this limitation in the claim. There are plural switches, so it is unclear which switch is being referred to.

Claim 3 recites the limitation "said switches" in line 17. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "said switch". There is insufficient antecedent basis for this limitation in the claim. There are plural switches, so it is unclear which switch is being referred to.

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Claim 6 recites the limitation "said switch". There is insufficient antecedent basis for this limitation in the claim. There are plural switches, (the first switch, the second switch, and the switch on each of the motors), so it is unclear which switch is being referred to.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Ostendorf et al (US 5924081).

Claims 1,3: A control for controlling a plurality of motors (fig. 7:M) for stopping said motors at a home orientation wherein each of said motors has a first contact, a second contact, and an output shaft, said plurality of motors being configured in a grid having columns and rows (fig 7:CLj, RLj, Fig. 8:CL1, RL1) with said first contacts (fig 8: top of motor/side connected to diode) of all of said motors in one of said column (Fig. 8:CL1) connected in parallel and said second contacts (Fig. 8:bottom of motor/side without diode) of all of said motors in one row connected in parallel (RL1), wherein one of said plurality of motors in a first column (CL1) and in a first row (RL1) is energized by directing electric power across a connector connecting first column and said connector connecting said first row, said controller comprising a switch (Fig. 8: S) on each of said plurality of motors, said switch having a first contact, a second contact, an open position, and a closed position, means on said output shaft for actuating said switch when said shaft is at said home orientation (col. 10:25-45), for each one of said motors, said first contact of said switch (left side contact) connected to said first contact of said motor (top of

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M11), a detector (180) for detecting a change in electric potential (col.8:64-9:1), and said second contact of said switches (right side contact) of said first row of said plurality of motors connected in parallel and connected by a detector line (fig 2:182) to said detector (180) for detecting a change in electric potential, the detector line (fig 2:182) independent of a circuit for applying power to the motors (fig 2:302) wherein said means for detecting will detect a change in potential when said shaft of said one of said motors rotates to its said home orientation (col.8:51-9:1).

Claims 2,4,6: means (D2) in series with the (S) switch for preventing reverse current (col. 25-30).

Claim 5: a control for controlling a plurality of motors (fig. 8:M) for stopping said motors at a home orientation wherein each of said motors has a first contact, a second contact, and an output shaft, said plurality of motors being configured in a grid having columns and rows (fig 7:CLj, RLj, Fig. 8:CL1, RL1) with said first contacts (fig 8: top of motor/side connected to diode) of all of said motors in one of said column connected in parallel wherein the first contacts are connected through a switch (Fig. 7:317/315; fig. 8:315) to a first pole of a power source (+V) and said second contacts (Fig. 8:bottom of motor/side without diode) of all of said motors in one row connected through a switch (Fig. 7:313/311, Fig. 8:311) to a second pole of a power source (Fig. 7: Vref) wherein one of said plurality of motors in a first column and in a first row (Fig. 8:M11) is energized by directing electric power across first contacts of the first column (CL1) and second contacts of the first (RL1); a switch (Fig. 8: S) on each of the motors (Fig. 8:M); said switch having a first contact a second contact, an open position, and a closed position, means on said output shaft for actuating said switch when said shaft is at said home orientation (col.8:51-9:1), for each one of said motors, said first contact of said switch (Fig. 8: left side contact) connected to said first contact of said motor (top of M11), means for detecting a

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change in electric potential (col.8:51-9:) and said second contact of said switches (Fig. 8: right side contact) of said first row (RL1) of said plurality of motors connected in parallel and connected to said means for detecting a change in electric potential by a detector line (fig 2:182) to said detector (180) for detecting a change in electric potential, the detector line (fig 2:182) independent of a circuit for applying power to the motors (fig 2:302) wherein said means for detecting will detect a change in potential when the switches are closed and said shaft of said one of said motors rotates to its said home orientation (col.8:51-9:1).

9. Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Heiman (US 4458187).

Claims 1,3: A control for controlling a plurality of motors (fig. 3:A101, 102) for stopping said motors at a home orientation wherein each of said motors has a first contact, a second contact, and an output shaft, said plurality of motors being configured in a grid having columns and rows (fig 3:Rows 1-8, cols 1-10) with said first contacts (fig 3: "+" side) of all of said motors in one of said column connected in parallel and said second contacts ("- " side) of all of said motors in one row connected in parallel, wherein one of said plurality of motors in a first column and in a first row is energized by directing electric power across a connector connecting first column and said connector connecting said first row, said controller comprising a switch (s101,s201) on each of said plurality of motors, said switch having a first contact, a second contact, an open position, and a closed position, means on said output shaft for actuating said switch when said shaft is at said home orientation (col. 2:54-3:13), for each one of said motors, said first contact of said switch (top of s101) connected to said first contact (+ side of s101) of said motor, a detector (330/335) for detecting a change in electric potential (330), and said second contact of said switches (bottom of s101) of said first row (row 1) of said plurality of

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motors connected in parallel and connected by a detector line (fig 1:line from 30; fig 3:321) to said detector (330/335) for detecting a change in electric potential, wherein said detector line (321) is independent of a circuit for applying power (335) to the motors (321 is not connected to 335), wherein said means for detecting will detect a change in potential when said shaft of said one of said motors rotates to its said home orientation (col. 5:15-30).

Claims 2,4: means (a diode) in series with the switch for preventing reverse current (col. 5:3-14).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5,6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heiman in view of Levasseur (US4284208).

Claim 5: Heiman teaches a control for controlling a plurality of motors (fig. 2:A101, 102) for stopping said motors at a home orientation wherein each of said motors has a first contact, a second contact, and an output shaft, said plurality of motors being configured in a grid having columns and rows (fig 2:Rows 1-8, cols 1-10) with said first contacts (fig 2: "+" side) of all of said motors in one of said column connected in parallel wherein the first contacts are connected through a switch (371) to a source (335) and said second contacts ("-“ side) of all of said motors in one row connected through a switch (371) to a source wherein one of said plurality of motors in a first column and in a first row is energized by directing electric power across a connector connecting first column and said connector connecting said first row, said controller comprising a switch (s101,s201) on each of said plurality of motors, said switch having a first contact, a

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second contact, an open position, and a closed position, means on said output shaft for actuating said switch when said shaft is at said home orientation (col. 2:54-3:13), for each one of said motors, said first contact of said switch (top of s101) connected to said first contact (+ side of s101) of said motor, means for detecting a change in electric potential (330) and said second contact of said switches (bottom of s101) of said first row (row 1) of said plurality of motors connected in parallel and connected by a detector line (fig 1:line from 30; fig 3:321) to said detector (330/335) for detecting a change in electric potential, wherein said detector line (321) is independent of a circuit for applying power (335) to the motors (321 is not connected to 335), wherein said means for detecting will detect a change in potential when said shaft of said one of said motors rotates to its said home orientation (col. 5:15-30). Heiman does not teach separate first and second switches connecting to first and second poles of the power source. Levasseur teaches motors in one column connected in parallel wherein the first contacts (top of the motor) are connected through a first switch (fig. 2:102A) to a first pole (+) of a source and said second contacts (bottom of the motor) of all of said motors in one row connected through a second switch (112A) to a second pole (-) of the source. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Heiman to use a second switch as taught by Levasseur in order to energize particular columns and rows of motors.

Claim 6: Heiman teaches means (a diode) in series with the switch for preventing reverse current (col. 5:3-14). Levasseur also teaches means (a diode) in series with the switch for preventing reverse current (col. 4:25-33).

Conclusion

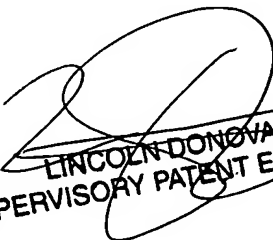
12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renata McCloud
Examiner
Art Unit 2837

rdm


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SUPERVISORY PATENT EXAMINER